Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRAVERSAL AND REQUEST FOR RECONSIDERATION OF REQUIREMENT FOR RESTRICTION

Dear Sir:

Applicants, through their undersigned attorneys, hereby traverse and request reconsideration of the requirement for restriction set forth in the Official Action dated April 1, 2003 in the above-identified patent application.

A shortened statutory response period of one (1) month was set in the April 1, 2003 Official Action. The initial due date for response, therefore, was May 1, 2003. A petition for a two (2) month extension of the response period is presented with this Traversal and Request for Reconsideration of Requirement for Restriction, which is being filed before the expiration of the two (2) month extension period.

The Examiner requires election from among 20 groups of allegedly distinct inventions.

For restriction to be proper, §803 MPEP states:

> Under the statute an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and they are either independent (MPEP § 806.04 - § 806.04(i)) or distinct (MPEP § 806.05 - § 806.05(i)).
>
> If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.

Thus, there are two criteria for a proper restriction requirement.

In relation to the establishment of a serious burden of searching, the MPEP further suggests "For purposes of the initial requirement, a serious burden on the examiner may be prima facie shown if the examiner shows by appropriate explanation of separate classification, or separate status in the art, or a different field of search as defined in MPEP § 808.02."

The Examiner has not done this in the present case. There would be no serious burden of examination here as any search relating to any of the groups identified by the Examiner in order to be complete, ought to encompass any subject-matter relating to human antibodies to human Fas and fragments thereof. See below for further comments on the nature of the present invention.

Moreover, this application is a national phase of a PCT application and the rules of the PCT over-ride the national laws. See MPEP 1893.03(d) Unity of Invention [R-1]:

"Examiners are reminded that unity of invention (not restriction) practice is applicable in international applications (both Chapter I and II) and in national stage ** applications >submitted under 35 U.S.C. 371<."

The MPEP goes on to explain:

> When making a lack of unity of invention requirement, the examiner must (1) list the different groups of claims and (2) explain why each group lacks unity with each other group (i.e., why there is no single general inventive concept) specifically describing the unique special technical feature in each group.

The principles of unity of invention are

> used to determine the types of claimed subject matter and the combinations of claims to different categories of invention that are permitted to be included in a single international or national stage patent application. The basic principle is that an application should relate to only one invention or, if there is more than one invention, that applicant would have a right to include in a single application only those inventions which are so linked as to form a single general inventive concept.
>
> A group of inventions is considered linked to form a single general inventive concept where there is a technical relationship among the inventions that involves at least one common or corresponding special technical feature.

In the office action, the Examiner merely states the following:

> The inventions listed as Groups I-XX do not related to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the peptides identified as SEQ ID NO: 1-7 and 9 do not share a common core structure, are materially different compositions and capable of eliciting different and distinct antibodies.

It is not logical to say that subject-matter of different claims lacks same or corresponding special technical features just because there are some differences between the claims. Although they are different in some respects, the claims nevertheless share corresponding technical features.

In particular, the claims each as a whole are directed to subject-matter concerned with human antibodies against human Fas. The inventor found that humans employ auto-antibodies against Fas in a regulatory context which can be manipulated in accordance with the invention. It was not obvious that human antibodies against Fas should exist with biologically functional

relevance. The immune system generally avoids making antibodies to self antigens and anti-self antibodies are only usually present in circumstances of auto-immune disease.

Groups I-VIII capitalize on the novel and unobvious findings and make use of peptides against which the inventor has found human antibodies with biologically functional relevance, these groups employing peptides to administer to humans to interact with the antibodies. At the very least these groups should be considered to be one ("Group A").

Groups IX to XII are directed to peptides themselves, these being peptides which are of biologically functional relevance because of the existence of human antibodies that bind these and have a functional role in vivo. At the very least these groups should be considered to be one ("Group B").

Groups XIII to XX are directed to methods of obtaining human antibodies by means of the peptides which are of biologically functional relevance because of the existence of human antibodies that bind and have a functional role in vivo. At the very least these groups should be considered to be one ("Group C").

In view of the foregoing, at least Groups A and C should be considered to satisfy the requirements of unity of invention under the PCT, and should be examined together in their entirety in the present case.

Prior to the making of the present invention it was not known that normal regulation of the biological function of Fas

employs antibodies to Fas found circulating in human serum.

That this should be the case is highly unusual, and wholly unpredictable. There is no lack of unity of inventive concept for the specific peptides because there is no example in the prior art of any administration of any short peptide (10-20 amino acids) to a human in a method of treatment of the human body by therapy.

Furthermore, as between claim 41 ("Group A") and claim 49 ("Group C"), both rely on the novel and unobvious teaching that biologically functional human antibodies against human Fas are found circulating in human serum, where they play a role in Fas regulation. The specific peptides whose sequences are recited are examples of peptides that may be employed within a more generically defined invention, within a single inventive concept.

As noted, in a human, human Fas is a self-antigen, that is to say an antigen that forms part of the human. The human immune system has various mechanisms designed to prevent it from generating antibodies against or otherwise mounting an immune response against components of the human itself, so-called self antigens. In addition to active mechanisms such as "tolerance", including anergy and clonal deletion by which immune cells are shut down or deleted during embyrogenesis, general evolutionary pressures have geared the human immune system away from manufacture of human antibodies that are specific to human self antigens.

In some autoimmune diseases, autoantibodies can appear. Generally, these are of low affinity and are poly-reactive rather than being specific for a certain antigen.

At the heart of the present invention is the inventor's wholly unpredictable finding that sera of normal humans contain human antibodies against human Fas; moreover that those antibodies have biological function in control of Fas activity. That such antibodies should exist is plainly and simply not obvious, and is certainly not suggested by any of the documents cited in the International Search Report.

Based on this discovery, the inventor has provided for the use of short peptide fragments of Fas. In one aspect, the invention provides for therapeutic use of such peptides (Group A). They can be administered to humans in order to bind with human antibodies specific for human Fas circulating in the serum, in order to modulate the biological activity of the Fas. Furthermore, they can be used in a process of isolation of human antibodies specific for human Fas (Group C), which antibodies themselves may be used in modulation of Fas activity. Both these aspects of the invention depend on the new knowledge provided by the present inventor that normal human serum contains biologically functional human antibodies against human Fas (hence the common inventive concept between the two aspects).

Prior to the making of the present invention the ordinary skilled person simply had no motivation to administer short peptide fragments of Fas in a method of therapeutic

treatment.

Group B is simply directed to particular peptides of use in Groups A and C and the same inventive concept underpins the claims.

Reconsideration and withdrawal of the restriction requirement is respectfully requested, with examination to proceed on the basis of all the claims as a whole.

As a second request, it is requested at the very least that Groups A and C identified above are rejoined.

As a third request, it is requested that Group C be considered as one group rejoined for further prosecution.

For completeness of response, Group XVI is elected (with traverse), i.e. a method of obtaining human antibody employing a peptide as defined in claim 43 with SEQ ID NO: 4.

If the Examiner, contrary to established U.S. Patent and Trademark Office practice and the facts of this case as set out above, proceeds with examination of Group XVI (using SEQ ID NO: 4) and not "Group C", then it is further requested that Group XVI be rejoined for examination with Group IV (also employing SEQ ID NO: 4).

Applicant's election in response to the present restriction requirement is without prejudice to her right to file one or more continuing applications, as provided in 35 U.S.C. §121, on the subject matter of any claims finally held withdrawn from consideration in this application.

Early and favorable action on the merits of this application is respectfully requested.

Respectfully submitted,

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